

**ABSTRACT**

A wireless communication system computes the pilot phase measurement RMSE directly by determining the path width as measured by the searcher component of the modem, the path drift over time, and the measurement resolution. The path width may be based on a measurement error that is half the path width or the larger of the distances from the local maxima to the earliest or latest side. Optionally, the distance from the peak to the 3dB-down point can be used if the search resolution permits such measurement. The path drift is multiplied with the uncertainty in the measurement time stamp to get an error. This error is added to the measurement error due to path width. The measurement resolution is also added to the error.

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